*Worksheet 4.4*: Naming ionic compounds and writing their formulas.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This table of ion names and formulas will help you complete the problems below.

|  |  |
| --- | --- |
| Name of Ion | Formula and Charge of Ion |
| nitrate | NO31- |
| chlorate | ClO31- |
| carbonate | CO32- |
| sulfate | SO42- |
| phosphate | PO43- |
| hydroxide | OH1- |

Write the name of each compound in the blank at the right. If you also write the charge of the ions in the blanks, it can help you determine the Roman numeral for the name. Not all names will require a Roman numeral, however.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Chemical Formula |  | Charge of Anion |  | Charge of Metal Cation |  | Name of Compound |
| 1. | Fe(NO3)3 |  | -1 |  | +3 |  | iron (III) nitrate |
| 2. | K2CO3 |  |  |  |  |  |  |
| 3. | NiCl2 |  |  |  |  |  |  |
| 4. | LiClO3 |  |  |  |  |  |  |
| 5. | K2SO4 |  |  |  |  |  |  |
| 6. | Fe(NO3)2 |  |  |  |  |  |  |
| 7. | CaCO3 |  |  |  |  |  |  |
| 8. | ZnI2 |  |  |  |  |  |  |
| 9. | CuOH |  |  |  |  |  |  |
| 10. | MnS2 |  |  |  |  |  |  |
| 11. | MgBr2 |  |  |  |  |  |  |
| 12. | Ag3PO4 |  |  |  |  |  |  |
| 13. | MgSO4 |  |  |  |  |  |  |
| 14. | UF6 |  |  |  |  |  |  |
| 15. | TiCl3 |  |  |  |  |  |  |
| 16. | AlPO4 |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Chemical Name |  | Formula of Cation |  | Formula of Anion |  | Chemical Formula of Compound |
| 17. | lithium nitride |  | Li1+ |  | N3- |  | Li3N |
| 18. | lithium nitrate |  |  |  |  |  |  |
| 19. | cobalt (II) chloride |  |  |  |  |  |  |
| 20. | cobalt (II) chlorate |  |  |  |  |  |  |
| 21. | copper (I) chlorate |  |  |  |  |  |  |
| 22. | calcium chloride |  |  |  |  |  |  |
| 23. | iron (II) oxide |  |  |  |  |  |  |
| 24. | iron (III) oxide |  |  |  |  |  |  |
| 25. | iron (III) hydroxide |  |  |  |  |  |  |
| 26. | rubidium sulfide |  |  |  |  |  |  |
| 27. | tin (II) sulfide |  |  |  |  |  |  |
| 28. | tin (IV) sulfate |  |  |  |  |  |  |
| 29. | manganese (VI) phosphate |  |  |  |  |  |  |
| 30. | manganese (VII) oxide |  |  |  |  |  |  |
| 31. | barium carbonate |  |  |  |  |  |  |
| 32. | potassium hydroxide |  |  |  |  |  |  |